United States Department of the Interior

NATIONAL PARK SERVICE
Grand Canyon National Park
P.O. Box 129
Grand Canyon, Arizona 86023-0129

IN REPLY REFER TO:

D18 (GRCA 8211)

Dear Interested Party:

The National Park Service (NPS) is in the initial stages of planning for the Bright Angel Creek Trout Reduction Project in Grand Canyon National Park. This project proposal is to reduce the non-native trout population in Bright Angel Creek using a weir placed in the creek to capture brown and rainbow trout.

a. Purpose and Need for Action: The purpose of the project is to restore and enhance the native fish community that once flourished in Bright Angel Creek and the Colorado River in Grand Canyon. A documented and accelerating decline in native fish populations in Grand Canyon National Park, including the endangered humpback chub, has caused growing concern among fisheries biologists and NPS resource managers. Evidence suggests that negative interactions with the large and increasing number of non-native trout in the Colorado River and its tributaries are contributing to this decline. Bright Angel Creek provides important spawning habitat for trout, particularly brown trout, which are known predators of humpback chub and other native fishes. Interrupting the annual spawning cycle by removing adult trout as they move into Bright Angel Creek is a feasible and an effective method for reducing trout numbers to benefit humpback chub and other native fishes.

The proposed action conforms to the National Park Service Organic Act of 1916, which mandates Grand Canyon National Park to conserve the natural resources found therein and to manage those resources to avoid their impairment. Actions designed to protect and restore the native species that comprise the Park's natural aquatic community further the intentions of that Act. The proposed action is consistent with the NPS Management Policies (2001) that require parks to maintain native plants and animals as parts of natural ecosystems, and to remove established populations of exotic species. Specifically, NPS Management Policies call for the eradication of exotic species if their control is prudent and feasible, and if they interfere with the survival of native species. Reducing threats to federally listed species is also consistent with NPS directives to comply with the Endangered Species Act of 1973. Finally, the proposed project is consistent with the non-native fish control measures in the U.S. Fish and Wildlife Service 2002 Recovery Goals for humpback chub.

b. Proposed Action: The scope of the proposed project, which will be conducted from fall of 2003 through January 2007, includes the following:

1. Removal of Non-Native Brown and Rainbow Trout. Beginning in November each year, a weir (fish trap) will be placed in Bright Angel Creek near the mouth to capture rainbow and brown trout moving into the creek from the mainstem Colorado River to spawn. Additional removal efforts using standard fisheries techniques will be conducted several times during the year. All captured trout will be sacrificed and pertinent biological data will be collected from each fish. Dead fish will be taken out of the Canyon and disposed of in a landfill.

2. Monitoring the Response of Fish Community Changes. During the spring and summer of each year, the response of the native fish community to trout removal will be examined by sampling Bright Angel Creek with standard fisheries techniques.

c. Management History: No species of trout inhabited the Colorado River system in Grand Canyon before human intervention. Prior to the construction of Glen Canyon Dam, the mainstem was too warm and turbid to support trout, and the tributaries that did provide suitable habitat were isolated from any source of trout species. This situation changed during the 1920s when the NPS staff began stocking trout in suitable tributaries to create a sportfishery for Park visitors. In 1920, brook trout were introduced into Bright Angel Creek, but they did not reproduce. Rainbow trout were first stocked into Bright Angel Creek in 1923; stocking continued until 1964. Brown trout were stocked into Bright Angel Creek in 1930 and 1934. Rainbow and brown trout successfully reproduced; these species comprise the recreational fishery that exists in Grand Canyon today.

During the years that non-native fishes were stocked in Grand Canyon, government agencies generally responded to prevailing social values and public demand by giving sportfishing a higher priority than preservation of native aquatic communities. Social values began to shift in mid-century as the scientific community, the public, and government agencies increasingly understood that introduced species disrupt ecosystems and lead to the decline and extinction of native species. Where exotic species are not maintained to meet an identified park purpose, NPS management objectives favor preserving native fish communities over non-native sportfisheries. Currently, the Grand Canyon National Park Resource Management Plan (RMP) identifies the threat posed by non-native species to Park wildlife resources as a major issue. It states, "In cases where funding and personnel levels allow, and where success is likely, control measures will reduce alien species populations." The RMP objectives also include promoting the conservation of federally listed endangered, threatened, or candidate species and their critical habitats. The proposed action to reduce the trout population in Bright Angel Creek is consistent with these management directives.

d. Supporting Information: Few systematic studies were conducted on fish populations in the Colorado River and its tributaries in Grand Canyon National Park before Glen Canyon Dam was completed in 1963. However, it is known that eight species were native to the system: humpback chub, roundtail chub, bonytail, speckled dace, flannelmouth sucker, bluehead sucker, razorback sucker, and Colorado pikeminnow. Surveys conducted in the last 40 years have confirmed that three of these species – roundtail chub, bonytail, and Colorado pikeminnow – no longer exist in the Park, and a fourth – razorback sucker – may be gone as well. The population of endangered humpback chub appears to be in steep decline and biologists are concerned about the three remaining native species. The decline of the native fish assemblage in Grand Canyon has been attributed to the radical alteration of the aquatic environment by Glen Canyon Dam, and to competition and predation by the at least 27 species of non-native fishes that have invaded or have been introduced into the system.

In Grand Canyon, rainbow and brown trout are found in the mainstem Colorado River, in Bright Angel Creek, and in several other tributaries. Rainbow trout is the overwhelmingly dominant fish species in the mainstem and several tributaries, but brown trout dominates Bright Angel Creek. This is a fairly recent development. An angler survey of Bright Angel Creek conducted in 1979 found that rainbow trout composed over 90% of the fish caught by anglers. In recent stream surveys, however, rainbow trout accounted for only 10% of the catch, while brown trout accounted for nearly 90%. Concurrently, the abundance of native speckled

dace in Bright Angel Creek declined from common in the 1970s to rare in the 1990s. A positive relationship has been documented between the decline in numbers of native speckled dace and the increased dominance of brown trout in Bright Angel Creek. In other Grand Canyon tributaries where brown trout are less common, speckled dace are found in large numbers. Brown trout and rainbow trout eat young native fishes, including humpback chub in Grand Canyon. Studies of fish food habits have found fish remains in the stomachs of brown trout to be over ten times those of rainbow trout. It is likely that speckled dace and other native fish species can be restored to Bright Angel Creek only if the trout population is substantially reduced or eliminated.

A reduction in brown trout is also likely to benefit native fish in the mainstem Colorado River. Predation by brown trout on humpback chub has been documented, and brown trout numbers are increasing in the reach of river most heavily populated by the chub. Mainstem monitoring conducted by Arizona Game and Fish Department in 2002 showed the greatest concentration of brown trout near the mouth of Bright Angel Creek. This confirms earlier studies. Bright Angel Creek is probably the main spawning ground for brown trout in Grand Canyon. Trapping adult brown trout as they move up Bright Angel Creek to spawn is likely the most efficient and effective way to reduce their numbers over time.

A reduction in rainbow trout may benefit native fish the mainstem Colorado River. Rainbow trout are known competitors with, and predators on, native fishes. Rainbow trout are distributed throughout much of the mainstem Colorado River in Grand Canyon and are known to spawn in Marble Canyon below Glen Canyon Dam. They also occur in several tributaries where they maintain spawning populations. Reduction of rainbow trout in Bright Angel Creek will augment the current efforts to reduce the trout population in the mainstem and thereby contribute to reduced competition and predation on native fishes.

Before we begin the environmental analysis for this project, we would like to hear your viewpoints on the proposed action and any issues or concerns you have regarding the proposal. Please send your comments to the Superintendent at the address below, or e-mail Sara White, Environmental Compliance Officer, at sara_white@nps.gov **no later than January 12, 2004**.

Superintendent
Grand Canyon National Park
Attn: Sara White, Environmental Compliance Officer
P.O. Box 129
Grand Canyon, AZ 86023

Please be aware that names and addresses of respondents may be released if requested under the Freedom of Information Act. Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Respondents may request that we withhold their home addresses from the record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

We appreciate your input on this proposal. If you have any questions regarding the project, please call Dr. Jeffrey Cross, Director of the Science Center, at (928) 638-7759.

Sincerely,

Joseph F. Alston
SUPERINTENDENT

Enclosures 1
Vicinity Map - Grand Canyon National Park

If you would like to receive a hard copy of the Environmental Assessment (EA) for this project when it is complete, please contact Sara White at the address above, or at (928) 638-7956, or at sara_white@nps.gov, and one will be sent to you during the comment period. If you do not respond to this request, a hard copy of the EA will not be sent to you. However, please be aware that this Environmental Assessment (when complete) and other environmental documents are routinely available for your review on the Grand Canyon National Park website at www.nps.gov/grca/mgmt/